

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. Of: FRITZSON et al.

Filed: April 21, 2006

For: COMPUTER SYSTEM FOR DETERMINING A DRUG DOSAGE

DOCKET: BERGLUNDS P0412

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

Prior to examination of the subject Application, please amend the Application as follows:

Amendments to the Claims begin on page 2 of this Amendment.

Remarks/Arguments begin on page 6 of this Amendment.

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AMENDMENTS TO THE CLAIMS:

Kindly amend claims 1, 3, 6-14, 17, 18, 19, 21, 23-27, as shown below.

This listing of claims will replace all prior versions and listings of claims in the Application:

Claim 1 (currently amended). An apparatus for determining a drug dosage comprising:

[[~~-~~]]an input interface for receiving data on at least one patient's biochemical profile, and data on at least one specific property of the drug;

[[~~-~~]]~~processing means~~ a processor having a simulation module for simulating the effect of a certain dosage based on the received data, and an evaluation module for determining, based on a simulation on at least one dosage, a drug dosage for the at least one patient in question.

Claim 2 (original). The apparatus of claim 1, wherein the evaluation module is adapted to determine said drug dosage for the at least one patient in question based on several simulations on different dosages.

Claim 3 (currently amended). The apparatus of claim 1 [[or 2]], wherein the biochemical profile data comprises at least one parameter related to the at least one patient's metabolic pathways.

Claim 4 (original). The apparatus of claim 3, wherein the biochemical profile data is determined based on measurements performed on a blood sample from the at least one patient.

Claim 5 (original). The apparatus of claim 4, wherein the measurement is made using a scaffold technique.

Claim 6 (currently amended). The apparatus of ~~any one of the claims 3-5~~claim 3, wherein the at least one parameter related to a metabolic pathway is at least one of: the speed of the

particular reaction to which the pathway pertains, the concentration of at least one reactant in the metabolic pathway, and the time required for decomposition of the drug.

Claim 7 (currently amended). The apparatus of ~~any one of the preceding claims~~claim 1, wherein the at least one specific property of the drug is at least one of: the distribution rate of the drug, the decomposition time of the active ingredients, and the decomposition time of possible by-products.

Claim 8 (currently amended). The apparatus of ~~any one of the preceding claims~~claim 1, wherein the simulation module is formed with an equation based modelling language.

Claim 9 (currently amended). The apparatus of claim 8, wherein the programming language is ~~further~~ object-oriented.

Claim 10 (currently amended). The apparatus of claim 8 [[or 9]], wherein the programming language further defines a multi-domain modelling capability.

Claim 11 (currently amended). The apparatus of ~~any one of the preceding claims~~claim 1, wherein the simulation module is adapted to perform a metabolic pathway simulation based on the received data.

Claim 12 (currently amended). The apparatus of ~~any one of the preceding claims~~claim 1, wherein the input interface further receives data specifying the most important metabolic pathways that are involved in the mechanisms of the drug in question, wherein the simulation module only performs simulations involving said specified pathways.

Claim 13 (currently amended). The apparatus of ~~any one of the preceding claims~~claim 1, wherein the evaluation module determines a drug dosage based on the ~~relation~~ relationship between desired levels of reactant concentration and drug concentration in the simulated process.

Claim 14 (currently amended). An automatic dosage device comprising an apparatus according to ~~any one of claims 1-13~~claim 1.

Claim 15 (original). The automatic dosage device of claim 14, further comprising a measurement unit for determining a patient's biochemical profile, said measurement unit being connected to the input interface of the apparatus.

Claim 16 (original). The automatic dosage device of claim 15, wherein the measurement unit determines the patient's biochemical profile based on a blood sample.

Claim 17 (currently amended). The automatic dosage device of ~~any one of claims 14-16~~claim 14, further comprising an output unit, such as a display, for communicating a recommended drug dosage for the patient in question to the user.

Claim 18 (currently amended). The automatic dosage device of ~~any one of claims 14-17~~claim 14, wherein the device is arranged within a self-contained portable unit.

Claim 19 (currently amended). A computer-implemented method for determining a drug dosage comprising:

[(-)]receiving data regarding at least one patient's biochemical profile;

[(-)]receiving data regarding at least one specific property of the drug;

[(-)]simulating the effect of at least one dosage based on the received data; and

[(-)]determining a drug dosage for the at least one patient in question based on the outcome of said simulation.

Claim 20 (original). The method of claim 19, further comprising the step of repeating said simulation with at least one other dosage, wherein the step of determining a drug dosage for the at least one patient in question is based on the outcome of said simulations.

Claim 21 (currently amended). The method of claim 19 [[or 20]], wherein the simulation step is repeated until a predetermined condition is met.

Claim 22 (original). The method of claim 20, wherein the predetermined condition is one of: minimising possible side effects, attaining a certain effect, and optimisation to a certain degree.

Claim 23 (currently amended). The method of ~~any one of claims 19-24~~claim 17, wherein the biochemical profile data comprises at least one parameter related to the at least one patient's metabolic pathways.

Claim 24 (currently amended). The method of ~~any one of the claims 19-22~~claim 17, wherein the biochemical profile data is determined based on at least one measurement performed on a blood sample from the at least one patient.

Claim 25 (currently amended). The method of ~~any one of the claims 19-23~~claim 17, wherein the simulation performs a metabolic pathway simulation based on the received data.

Claim 26 (currently amended). The method of ~~any one of the claims 19-24~~claim 17, wherein the drug dosage is determined based on the relation between desired levels of reactant concentration and drug concentration in the simulated process.

Claim 27 (currently amended). A computer program comprising computer program code for executing the method of ~~any one of claims 19-25~~claim 1.

Claim 28 (original). A computer-readable medium, having the computer program according to claim 26 recorded thereon.

REMARKS

The claims have been amended to eliminate multiple dependent claims, employ more idiomatic English, and in the case of claim 1, to eliminate means language and operation of 35 USC §112(6). No new matter has been entered. The filing fees have been calculated based on the claims as amended.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

Respectfully submitted,



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CERTIFICATE OF ELECTRONIC FILING

I hereby certify that this paper is being deposited with the United States Patent Office via the electronic filing procedure on April 24, 2006 at Tucson, Arizona.



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